

**REMARKS**

The Official Action mailed November 3, 2006, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on February 25, 2005; August 4, 2005; February 3, 2006; and July 28, 2006.

Claims 25-212 were pending in the present application prior to the above amendment. Dependent claims 57-61, 63-70, 72-79, 81-88, 90-97, 99-106, 108-115, 117-124, 126-133, 135-142, 144-151, 153-160, 162-169, 171-178, 180-187, 189-196 and 198-200 have been withdrawn from consideration by the Examiner (Office Action Summary, Paper No. 20061031). Accordingly, claims 25-56, 62, 71, 80, 89, 98, 107, 116, 125, 134, 143, 152, 161, 170, 179, 188, 197 and 201-212 are currently elected, of which claims 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53 and 55 are independent. (In the Office Action Summary, Disposition of Claims, Box 6, the list of rejected claims includes claim 106 as a rejected claim; however, it appears that claim 106 has been withdrawn. Also, the list of rejected claims does not include claim 116, which was apparently rejected at page 4 of the Official Action.) Claims 25-56 have been amended to better recite the features of the present invention. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 3 of the Official Action rejects claims 25, 26, 29, 30, 33, 34, 41, 42, 46, 49 and 50-52 as anticipated by U.S. Patent No. 6,414,280 to Nishitani. The Applicant respectfully submits that an anticipation rejection cannot be maintained against the independent claims of the present application, as amended.

As stated in MPEP § 2131, to establish an anticipation rejection, each and every element as set forth in the claim must be described either expressly or inherently in a

single prior art reference. Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Amendment claims 25, 27, 41 and 43 recite heating a substrate (or semiconductor film) with a light in a plurality of pulse forms, each pulse form has a cycle of one second or longer, and each pulse form includes switching on and off a light lamp source. On the other hand, Nishitani discloses "[w]ith the lamp control power supply 17 receiving a lamp light control signal ... the lamps 10 are energized and lighted for a prescribed time (10 to 20 seconds) ... the supply of current to the lamps 10 is stopped, [and] the lamps 10 are switched off ..." (column 16, lines 1-13). That is, Nishitani appears to teach that a lamp is switched on and off only once. Therefore, Nishitani does not disclose the above-referenced features of claims 25, 27, 41 and 43, either explicitly or inherently.

Amended claims 29, 31, 37, 39, 45, 47, 53 and 55 recite heating a substrate (or semiconductor film) in a first stage with a light in a plurality of first pulse forms, heating the substrate in a second stage with a light in a plurality of second pulse forms, each first pulse form having a cycle of one second or shorter, each second pulse form having a cycle of one second or longer, each first pulse form and each second pulse form includes switching on and off a light lamp source. As noted above, Nishitani merely discloses heating a substrate with a light by switching on and off a lamp source only one time. Therefore, Nishitani does not disclose the above-referenced features of claims 29, 31, 37, 39, 45, 47, 53 and 55, either explicitly or inherently.

Amended claims 33 and 49 recite that heating the substrate (or semiconductor film) with a light in a plurality of pulse forms, each pulse form having a cycle of one second or shorter, and each pulse form includes switching on and off a light lamp source. As noted above, Nishitani merely discloses heating a substrate with a light by switching on and off a lamp source only one time. Therefore, Nishitani does not disclose the above-referenced features of claims 33 and 49, either explicitly or inherently.

Amended claims 35 and 51 recite performing a first heat treatment to a substrate (or semiconductor film) with a light in a plurality of first pulse forms, performing a second heat treatment to the substrate (or semiconductor film) with a light in a plurality of second pulse forms, each first pulse form having a cycle of one second or shorter, and each first pulse form includes switching on and off a light lamp source. As noted above, Nishitani merely discloses heating a substrate with a light by switching on and off a lamp source only one time. Therefore, Nishitani does not disclose the above-referenced features of claims 35 and 51, either explicitly or inherently.

Since Nishitani does not teach all the elements of the independent claims, either explicitly or inherently, an anticipation rejection cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 are in order and respectfully requested.

Paragraph 5 of the Official Action rejects claims 27, 28, 31, 32, 35-40, 43, 44, 47, 48, 53-56 and 201-212 as obvious based on the combination of Nishitani and U.S. Patent No. 6,461,439 to Granneman or U.S. Patent No. 6,399,921 to Johnsgard. Although dependent claims 62, 71, 80, 89, 98, 107, 116, 125, 134, 143, 152, 161, 170, 179, 188 and 197 are not listed at page 3 of the Official Action, it also appears that the Official Action rejects these claims on the basis of the alleged combination of Nishitani and Granneman or Johnsgard.

Please incorporate the arguments above with respect to the deficiencies in Nishitani. Granneman or Johnsgard does not cure the deficiencies in Nishitani. The Official Action relies on Granneman or Johnsgard to allegedly teach the features of the dependent claims. Specifically, the Official Action relies on Granneman or Johnsgard to allegedly teach providing a heated or conductive gas into a reaction tube to enhance a thermal transfer within the tube for heating a substrate (page 3, Paper No. 20061031). However, Nishitani and Granneman or Johnsgard, either alone or in combination, do not teach or suggest the above referenced features of claims 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53 and 55. Since Nishitani and Granneman or Johnsgard do not

teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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